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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,856	12/21/2005	Arie Geert Koppelaar	NL 030701	1453

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EXAMINER
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ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

	Application No.	Applicant(s)
Office Action Summary	10/561,856	KOPPELAAR, ARIE GEERT
	Examiner	Art Unit
	Jean B. Corrielus	2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _13 February 2009_.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-10,12-15 and 17-23_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-7,12-15,17-20, 22-23_ is/are rejected.
7)☒ Claim(s) _8-10 and 21_ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _21 December 2005_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some *   c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Specification

1.   The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
        DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A
        COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
        (1) Field of the Invention.
        (2) Description of Related Art including information disclosed under 37
        CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A
        "Sequence Listing" is required on paper if the application discloses a
        nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if
        the required "Sequence Listing" is not submitted as an electronic
        document on compact disc).

Claim Objections

2.   Claims 1-10, 12-15, 17-19 and 23 are objected to because of the following

informalities: what is the corresponding structure for the limitation "means for

determining" recited in claim 1? According to page 8, lines 25-28, it appears that the

corresponding structure is decoder 22. If such assumption is accurate, there may be a

problem with the claim language because the " counter", recited in claim 1, a

descrambler, in claim 4, a despreader in claim 5, a demodulator in claim 6, the

descrambler, scrambler and modulator, and a despreader, in claim 10, a decoder in

claim 12, all form part of the decoder 22. The claim langue however would suggest

that the decoder 22 and the components recited above are independent. Appropriate

correction is required.

Claim Rejections - 35 USC § 112

3.   Applicant's response has overcome the 112 first paragraph rejection of claims

12-14.

4.   Applicant's response has overcome the 112 first paragraph rejection of claims 1-

3 and 11.

Claim Rejections - 35 USC § 101

5.   Applicant's response has overcome the 101 rejection of claims 20-22.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-7, 12-15, 17-20 and 22-23 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Chiu et al US patent application publication no. 20030147374

A1 in view of Tang et al US patent no. 7,403,539.

As per claim 1, Chiu et al teaches an apparatus fig. 2 for determining a frame

format of data received by a receiver fig. 2 and paragraph 0014, lines 1-3, said frame

format fig. 1A including a synchronization field 112 which defines said frame format as

being of a first or second type 112a (Fig. 1B) or 112b (fig. 1C), the apparatus fig. 2

comprises a counter (208a) arranged to count a number of consecutive bits of the

synchronization field of a received frame and determining, if said frame format is of said

first or second type, where N is an integer greater than 1 see paragraph 0014 lines 10-

18. However, Chiu et al does not teach the consecutive bits having the same plurality or

logic value, and determining if said frame format is of said first or second type,

depending on the polarity or logic value of said N consecutive bits. Tang et al teaches

teach the consecutive bits having the same plurality or logic value, and determining if

said frame format is of said first or second type, depending on the polarity or logic value

of said consecutive bits see col. 10, lines 37-41. Given that fact, it would have been

obvious to one skill in the art to modify Chiu by determining when a string of a

predetermined polarity has been counted because according to the teaching of Tang et

al, each one of the long and short preamble is identifiable by a stream of same logic

values. Hence, configure the counter of Chiu to determine when such a sequence has

been received would have been in the purview of one skill in the art as such would have

provided an effective and an efficient way to determine the frame type of the received signal.

As per claim 2, Chiu et al teaches said first frame format fig. 1A comprises a short frame format Fig. 1C with a synchronization field 112b having a first predetermined number of bits (56bits), and said second frame format fig. 1a comprises a long frame format fig. 1B with a synchronization field 112a having a second predetermined number of bits (128 bits), said second predetermined number (128 bits) being greater than said first predetermined number (56 bits) see fig.1B and fig. 1C.

As per claim 3, Chiu fails to teach said short frame format has a synchronization field comprising a first predetermined number of consecutive bits of a first plurality or logic value, and said second frame format has a synchronization field comprising a second predetermined number of consecutive bits of a second polarity or logic value, opposite to said first polarity or logic value. However as evidence by Tang et al at col. 10, lines 37-41, it is well known in the art to represent the first frame format with consecutive bits having a first polarity and representing the second frame format with a second polarity different from the first and the motivation would have been the same as provided above with respect to claim 1.

As per claim 4, fig. 2 show a descrambler 206 configured to descramble the received sync signal prior to providing the descrambled data to the counter 208a see paragraph 0033 and a corresponding scrambler to scramble the sync field prior to transmission is inherently provided because a descrambling operation requires a scrambling operation to take place beforehand.

As per claim 5, Chiu et al does not teach said data frame is spread by means of a direct sequence spread spectrum technique prior to transmission thereof, and said apparatus comprises a corresponding despreader to which said received data frame is applied prior to the data being passed to said counter. Tang et al teaches said data frame is spread by means of a direct sequence spread spectrum technique prior to transmission thereof see col. 8, lines 32-38, and said apparatus comprises a corresponding despreader to which said received data frame is applied prior to the data being passed to said detector see col. 8, lines 27-33. Given that fact, it would have been obvious to one skill in the art to have modified Chiu by despreading the signal prior to being provided to the counter in order to undo the effect of spreading performed in the transmitter side. Note that Spread spectrum modulation provides added security so that unauthorized party does not access the information signal.

As per claim 6 Chiu does not teach that the signal is demodulated after despreading. However, as shown by Tang et al fig. 2 element 3650, it is well known in the spread spectrum technology once a signal is despread other signal processing such as demodulation the despread signal can take place so as to recover the original signal. Hence it would have been obvious to one skill in the art to modify Chiu by demodulating the signal after despreading and before counting by the counter so as to recover the original signal.

As per claim 7, Chiu does not teach that the demodulator is a DBPSK demodulator. Tang et al teaches that the demodulator is a DBPSK demodulator see fig. 2, element 375. Given that fact, it would have been obvious to one skill in the art to

incorporate such a teaching in Chiu and the motivation would have been the same as provided with respect to claim 6.

As per claim 12, Chiu teaches elements (202, 204, 206, 208, 212 and 210) considered as the claimed decoder and the decoder (202, 204, 206, 208, 212 and 210) includes the apparatus of claim 1.

As per claim 13, the receiver fig. 2 includes a decoder (202, 204, 206, 208, 212 and 210).

As per claim 14, Chiu does not teach an equalizer. Tang teaches an equalizer 355. It would have been obvious to one skill in the art to incorporate such a teaching in Chiu so as to remove interference from the signal so as to improve signal detection.

As per claim 15, Chiu does not teach an adaptive equalizer. Tang et al teaches that the equalizer is a DFE equalizer. DFE equalizer is by definition an adaptive equalizer. It would have been obvious to one skill in the art to implement the equalizer as an adaptive equalizer so as to set up it parameters such as tap coefficients based on condition of channel for better performance.

As per claim 17, the receiver is a wireless receiver see paragraph 0024.

As per claim 18, the system includes a wireless LAN having a receiver for receiving frames see paragraph 0028, and the LAN inherently includes a transmitter for transmitting the signal.

As per claim 19, note that because the LAN is wireless, the transmitter and receiver have to be wireless.

As per claim 20, see claim 1.

As per claim 22, see claim 17.

As per claim 23, the combined references do not teach that the number of bits are 7. However, one skill in the art at the time of the invention would have been motivated to set the number of bits to 7 in order to match the length characteristic of a received signal so as to enable detection of the same.

Allowable Subject Matter

8.   Claims 8-10 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The claims must be amended as well to overcome the claim objection.

Response to Arguments

9.   Applicant's arguments filed 2/13/09 have been fully considered but they are not persuasive. Applicant' argues that "Tang teaches that the number of consecutive I's or O's can be used to identify the 802.11/802.1 lb long and short preamble formats. However, Tang fails to teach that strings of consecutive 1's are enough to distinguish the 802.11/802.1 lb long preamble format from the 802.11/802.1 lb short preamble format. Tang also fails to teach that strings of consecutive O's are enough to distinguish the 802.11/802.1 lb long preamble format from the 802.11/802.1 lb short preamble format. Thus, Tang fails to teach determining if a frame format is of the 802.11/802.1 lb long preamble format or the 802.11/802.1 lb short preamble format, depending on the polarity or logic value of the consecutive bits." Such point of argument is not understood, since, at col. 10, lines 37-41, Tang clearly teaches that when 8

consecutive 1's **or** 0's a long preamble format is detected. The condition will be met

when either the 8 consecutive ones are detected or 8 consecutive zeroes not both (i.e.

8 consecutive ones and 8 consecutive zeroes). Likewise at col. 10, lines 37-41, Tang

clearly teaches that when 16 consecutive 1's or 0's are detected a short preamble is

detected. Again, the condition will be met when either the 16 consecutive ones are

detected or 16 consecutive zeroes not both (i.e. not 16 consecutive ones and 16

consecutive zeroes). Hence, the missing limitation is clearly taught by Tang.

Applicant alleged that there is no requirement in the MPEP that headings should

be used. However, examiner notes that 37 CFR 1.77 (C) clearly states:

> (c)   The text of the specification sections defined in paragraphs (b)(1) through
> (b)(12) of this section, if applicable, should be preceded by a section heading in
> uppercase and without underlining or bold type.

Conclusion

10.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-
3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the
organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jean B Corrielus/
Primary Examiner
Art Unit 2611